## TCH Evidence-Based Outcomes Center Diagnosis and Management of Primary Spontaneous Pneumothorax

## ^If tension pneumothorax is suspected at Inclusion Criteria: any time, notify Emergency Medicine and Initial or recurrent spontaneous pneumothorax Begin<sup>^</sup> Surgery attendings. If unstable, perform in otherwise healthy patients needle thoracostomy. **Exclusion Criteria:** Underlying chronic lung disease, explained Spontaneous pneumothorax (e.g., traumatic, iatrogenic, or pneumothorax confirmed by OFF algorithm resulting from birth) inspiratory chest x-ray Yes Administer oxygen via non-rebreather mask. Consult Surgery. Yes Obtain a non-contrast CT, if clinically Recurrent (>1) pneumothorax or If suspected underlying lung pathology, suspected underlying lung consult Pulmonary. pathology \*The size of the pneumothorax is less important than the degree of clinical compromise. No For children >12 years, a pneumothorax is considered 'large' Surgical intervention as based on the following measurements: Assess size\* and degree of needed Measurement of the vertical distance between the lung and clinical compromise. thoracic cage at the apex (a); if ≥3 cm, pneumothorax is large If bilateral pneumothoraces, OR manage each pneumothorax - Measurement of the distance between the lateral lung edge independently. and chest wall at the level of the hilum (b); if >2 cm, pneumothorax is large Small\* Large\* Insert a pleural (pigtail) catheter Transition to nasal cannula as (preferred) or chest tube. appropriate. Confirm adequate placement with Obtain a chest x-ray at 4-6 hours. chest x-ray. Progression of size Remove oxygen and Insert a pleural (pigtail) catheter (preferred) or chest tube. consider discharge if the patient no longer requires Confirm adequate placement oxygen on room air. with chest x-ray Remove the catheter in a staged manner once a chest x-ray demonstrates complete resolution and there is no clinical evidence of

air leak.

Manage as appropriate to clinical findings.